IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A system for providing interactive program guide (IPG), the system comprising:

a plurality of encoding units, disposed within a headend of a distribution system, each of the plurality of encoding units being operative to receive content from a plurality of content sources, the content including a plurality of video inputs, each video input associated with a corresponding IPG page associated with each of the plurality of video inputs, an audio input and at least one data input, wherein each of the plurality of video inputs associated with IPG pages include a guide portion and a video portion, the plurality of encoding units encoding to encode the guide portion and the video portion of each video input associated with the IPG pages, the audio input and the at least one data input and to generate generating a guide stream for each of the video inputs and a video stream, an audio stream and at least one data stream, wherein each generated guide stream, video stream, audio stream and data stream is assigned a respective packet identifier (PID);

at least one transport stream generator operatively coupled to the plurality of encoding units and , each transport stream generator being assigned to a single distribution node of the distribution system, each transport stream generator further operative to receive the generated guide stream, video stream, audio stream and data stream from one or more of the plurality of encoding units and to multiplex packets from the received streams into one or more transport streams, wherein the at least one transport stream generator provides generates packets conveying a program mapping table (PMT) for each transport stream;

a session manager coupled to the at least one transport stream generator and the plurality of encoding units, the session manager being operative to manage the operation of the plurality of encoding units and the at least one transport stream generator and to service demands of ~~the~~ each distribution node of the distribution system; and

a bandwidth manager, coupled to the at least one transport stream generator for monitoring resources usage and availability for encoding by the plurality of encoding units, the bandwidth manager, in response to a demand received from a node of the distribution ~~node~~ system, obtains information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the distribution node to service the demand and communicates the obtained information to the session manager for servicing the demand, wherein the session manager controls the at least one transport stream generator to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager.

2.   (Canceled)

3.   (Previously Presented)   The system of claim 1, wherein the plurality of encoding units are operative to encode only once each IPG page to be transmitted from the at least one transport stream generator.

4.   (Canceled)

5. (Original) The system of claim 1, wherein the session manager directs a particular transport stream generator to generate an additional transport stream as usage increases and exceeds the capacity of currently transmitted transport stream(s).

6. (Original) The system of claim 1, wherein the session manager directs a particular transport stream generator to generate an additional transport stream if the number of streams to be transmitted by the particular transport stream generator exceeds the capacity of currently transmitted transport stream(s).

7. (Previously Presented) The system of claim 1, wherein the session manager, in response to the information communicated by the bandwidth manager, directs a particular transport stream generator to generate an additional transport stream when the information indicates a required number of PIDs exceeds a maximum number of PIDs supported by currently transmitted transport stream(s).

8. (Original) The system of claim 1, wherein the session manager directs a particular transport stream generator to tear down a transport stream if usage falls below the capacity of remaining transport streams.

9. (Original) The system of claim 1, wherein each transport stream generator is operative to serve a respective group of terminals within a particular neighborhood.

10. (Previously Presented) The system of claim 1, wherein each transport stream generator is operable to provide differentiated IPG via the one or more transport streams generated by the transport stream generator.

11. (Previously Presented) The system of claim 1, wherein a plurality of transport streams are generated by a particular transport stream generator, and wherein each of the plurality of transport streams includes a respective set of IPG pages represented by the generated streams.

12. (Previously Presented) The system of claim 11, wherein the plurality of transport streams from the particular transport stream generator include transport streams with overlapping guide PIDs.

13. (Previously Presented) The system of claim 11, wherein each of the plurality of transport streams from the particular transport stream generator includes one or more common IPG pages.

14. (Previously Presented) The system of claim 11, wherein the sets of IPG pages for the plurality of transport streams from the particular transport stream generator are organized to reduce likelihood of switching between transport streams at a receiving device.

15. (Previously Presented) The system of claim 11, wherein the sets of IPG pages for the plurality of transport streams from the particular transport stream generator are organized to increase likelihood of PID transitions within the same transport stream.

16.   (Original)   The system of claim 1, wherein each encoding unit is operative to implement a slice-based encoding scheme.

17.   (Original)   The system of claim 1, wherein each encoding unit is operative to implement a picture-based encoding scheme.

18. (Currently Amended) A system for providing interactive program guide (IPG), the system comprising:

at least one transport stream generator, disposed within a headend of a distribution system, wherein each transport steam generator is assigned to a single distribution node of the distribution system, each transport stream generator further including at least one encoder unit operative to receive content from a plurality of content sources, the content including a plurality of video inputs, each video input associated with a corresponding IPG page associated with each of the plurality of video inputs, an audio input and at least one data input, wherein each of the plurality of video inputs associated with IPG pages include a guide portion and a video portion, the plurality of encoding units encoding to encode the guide portion and the video portion of each video input associated with the IPG pages, the audio input and the at least one data input and to generate generating a guide stream for each of the video inputs and a video stream, an audio stream and at least one data stream, wherein each generated guide stream, video stream, audio stream and data stream is assigned a respective packet identifier (PID), each transport stream generator operative to receive the generated guide stream, video stream, audio stream and data stream from one or more of the plurality of encoding units and to multiplex packets from the received streams into one or more transport streams, wherein the at least one transport stream generator provides generates packets conveying a program mapping table (PMT) for each transport stream;

a session manager coupled to the at least one transport stream generator and operative to manage the operation of the plurality of encoding units and the at least one transport stream generator and to service demands of the each distribution node of the distribution system; and

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a bandwidth manager, coupled to the at least one transport stream generator for monitoring resources usage and availability for encoding by the plurality of encoding units, the bandwidth manager, in response to a demand received from a node of the distribution ~~node~~ system, obtains information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the distribution node to service the demand and communicates the obtained information to the session manager for servicing the demand, wherein the session manager controls the at least one transport stream generator to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager.

19.   (Canceled)

20. (Currently Amended) A method for providing interactive program guide (IPG) from a transmission source to a plurality of terminals, the method comprising:

receiving, at a plurality of encoding units disposed within a headend of a distribution system, content from a plurality of content sources, the content including a plurality of video inputs, ~~each video input associated with~~ a corresponding IPG page associated with each of the plurality of video inputs, an audio input and at least one data input, wherein each of the plurality of video inputs associated with IPG pages include a guide portion and a video portion,

encoding, at the plurality of encoding units, the guide portion and the video portion of each video input associated with the IPG pages, the audio input and the at least one data input;

generating, at the plurality of encoding units, a guide stream for each of the video inputs and a video stream, an audio stream and at least one data stream, wherein each generated guide stream, video stream, audio stream and data stream is assigned a respective packet identifier (PID);

receiving the generated guide stream, video stream, audio stream and data stream, by at least one transport stream generator operatively coupled to ~~from~~ one or more of the plurality of encoding units, each transport stream generator being assigned to a single distribution node of the distribution system;

multiplexing packets from the received streams into one or more transport streams, wherein the at least one transport stream generator ~~provides~~ generates packets conveying a program mapping table (PMT) for each transport stream;

monitoring, at a session manager, the operation of the plurality of encoding units encoding the plurality of IPG pages, audio input and data input and the at least one transport stream generator;

monitoring, at the session manager, demands received from the plurality of terminals via a node of the distribution system;

in response to a demand received by the session manager from a terminal via a node of the distribution system, obtaining, by a bandwidth manager, information regarding determining a current capacity of one or more transport streams to determine whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the plurality of terminals to service the demands;

comparing the demands from the plurality of terminals demand from the terminal against the current capacity obtained information; and

dynamically adjusting, by the session manager, the number of transport streams to be transmitted by the transport steam generator to the plurality of terminals based on a result of the comparing the demand from the terminal against the obtained information received from the bandwidth manager.

21.   (Original)   The method of claim 20, further comprising:

providing an additional transport stream for the plurality of terminals if the demands exceeds the current capacity.

22.   (Original)   The method of claim 20, further comprising:

providing an additional transport stream for the plurality of terminals if a required

number of packet identifiers (PIDs) exceeds a maximum number of PIDs supported by the

one or more transport streams currently being transmitted.

23.   (Original)   The method of claim 20, further comprising:

tearing down a particular currently transmitted transport stream if the demands fall

below the capacity of remaining transport streams.